

## High Level Takeaways

- **This is the first report to look comprehensively at the networks of animal commerce that drive zoonotic risk in the United States**
  - The report analyzes zoonotic risk in 36 distinct animal industries including: fur farming, the exotic pet trade, hunting and trapping, industrial animal agriculture, backyard chicken production, alligator farming, roadside zoos, and many others.
- **The United States currently has no comprehensive strategy to address zoonotic risk.**
  - The current regulatory system is incomplete, fractured, and in urgent need of reconstruction.
  - Regulatory agencies are siloed from one another, and wide regulatory gaps exist through which pathogens can spillover and spread, leaving the public vulnerable to zoonotic risk.
    - The status quo is insufficient, and the stakes are too high for the problem to be ignored.
- **Animal use in the U.S. is often poorly regulated (and sometimes unregulated altogether). Regulation of animal use rarely focuses on disease prevention** although an estimated 75% of emerging infectious diseases come from animals.
- **Animals are used and consumed in the United States on an immense scale, making the country particularly vulnerable to zoonotic disease.**
  - The United States is the world's largest importer of both domestic animals and of wildlife.
  - The United States produced more than 10 billion animals for food in 2022.
    - The more human-animal interactions, the more opportunities for spillover of zoonotic disease.
  - U.S. consumer demand also drives dangerous human-animal interactions in much of the developing world (for example, through the exotic pet trade), increasing zoonotic risk globally.
- **At present, the United States lacks even basic information about many forms of animal industries that pose zoonotic risks.**
  - In some cases, public health officials are unaware of whole industries or first learned of their existence when the animals in them began contracting COVID-19.

- There is an urgent need for more data and better monitoring across many forms of animal industry.
  - For example, although fur farms pose a high risk of zoonotic disease, many states do not know if, where, or how many fur farms operate within their borders.
- **Risk cannot be eliminated, but it can be reduced-** often in ways that would scarcely be felt by the public at large.
  - Law and policy are an important tool for reducing risk.
    - The first step is to document and better understand the problem.
    - But this should be followed by clear-eyed, candid conversations about whether each practice is worth the public health risk it poses, in an effort to reduce risk wherever possible.

### Important Findings

- **Influenza viruses are widely considered the most likely to give rise to a large-scale human pandemic.** Pathogens (particularly single-strand RNA viruses such as influenza) that both rapidly mutate and are highly contagious pose the greatest threat.
  - The United States produces larger numbers of pigs and poultry (two important carriers of influenza viruses) than almost any other country.
    - In 2022, the US produced more than 9.5 billion chickens and 125 million pigs.
      - These industries and the overlap between them increases the risk of generating a new strain of influenza virus that could affect humans.
  - The largest avian influenza outbreak in US history is ongoing, leaving 58 million poultry dead since it began in 2022. The virus has spread to many species of mammals in the United States and infected a man in Colorado.
  - The U.S. has recorded more swine-origin influenza infections than any other country since 2011. Most of these infections occurred in children and young adults exhibiting pigs at state and county fairs.
    - These fairs attract 150 million visitors each year and have given rise to multistate outbreaks of “swine flu.”
      - Still, animal fairs remain largely unregulated and exempt from federal oversight.
- **Many forms of animal industry, and the zoonotic risks those industries pose, are less regulated than the public believes.**

- For example, the USDA does not regulate on-farm production of livestock.
    - The federal law regulating animals in research excludes the majority of laboratory animals and many of the most commonly used species.
    - Most wildlife brought into the United States are not tested for disease (although cats and dogs often require health inspections and quarantines).
  - Many Americans believe that because an activity is legal, it is safe. But this is simply not the case.
    - For example, animals carrying zoonotic disease can and are sold through legal channels such as pet stores without health checks or veterinary oversight of any kind.
- **In many cases, government action supports activities that drive zoonotic risk.**
  - For example, some states operate wildlife farms and breed thousands of animals, such as pheasants to be released on public lands for hunting; however, birds in these operations have become infected with zoonotic diseases like avian influenza.
  - Subsidies, bounties, and other policy incentives or programs encourage the public to interact with animals in ways that can give rise to zoonotic spillover.
- **Policy change is often reactive and happens only after an outbreak occurs; rarely do agencies take proactive steps to mitigate zoonotic risk.**
  - Too often, agencies act only when circumstances force their hand. As a general rule, there are very few comprehensive risk analyses in place to identify zoonotic threats and address them proactively. Instead, regulators at both the state and federal level too often wait until an outbreak has occurred.
- **Even small industries can have dangerous consequences.**
  - Zoonotic disease can come from anywhere; no matter how fringe an activity may seem, because of the way pathogens move and spread, we are all exposed to risks from each of the industries described in this report.
    - For example: Crocodile farms have spread West Nile Virus to humans; mink in fur farms have transmitted COVID-19, and mpox spilled over to humans from the trade in pet prairie dogs.
- **The people most vulnerable to zoonotic disease are those who hold hands-on jobs working with animals; these individuals may also be the least likely and the least able to report disease or seek medical care.**

- Studies estimate that swine workers have a 30 times greater risk of zoonotic influenza infection than the general public.
- Such jobs tend to be low-income jobs disproportionately staffed by people of color and those in rural communities.
- **Live animal markets in the United States, where animals are stored alive and slaughtered onsite for customers, pose serious risks to public health.**
  - For example: A detailed study of pigs in two live animal food markets in Minneapolis found high rates of influenza viruses not just in and on the animals themselves but in the air and on surfaces throughout the market.
    - 65% of workers at the market tested positive for influenza during the 12 week study, as did a customer— a twelve year old boy who became sick after touching the railings of the pig pen and one of the animals.
  - There are 84 live animal markets in New York City alone. An estimated 25 million birds pass through markets in the Northeastern United States each year, though many markets also slaughter larger animals such as pigs and sheep.
- **There is significant disease exposure at the border from live wildlife imports entering the United States with no health or safety checks.**
  - **The exotic pet trade imports millions of live wild animals into the U.S. each year; most of these shipments are not screened for disease when they enter the country.**
  - The United States Fish and Wildlife Service, which oversees imports, has no independent authority to detain diseased animals and prevent them from entering the country.
  - The exotic pet industry remains largely unmonitored though it poses serious risks of zoonotic disease.
- **Many forms of animal industry are connected and the interplay between different kinds of animal industries can amplify the disease risks posed by each.**
- **The sometimes arbitrary division of authority between multiple regulatory agencies leads to siloing, underenforcement, gaps between agencies, and legal gray areas, all of which undermine enforcement and threaten public health.**